

A new species of terrestrial isopod (Oniscidea: Delatorreidae) from Cuba

Nueva especie de Isópodo Terrestre (Oniscidea: Delatorreidae) de Cuba

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Abstract

A new species of terrestrial isopods belonging to the genus *Pseudarmadillo* Saussure, 1861, collected in Quarry of Mella, Pinalito, Santiago de Cuba province, is described. Due to its ornamentation and rarity, this species differs conspicuously of their congeners with the exception of *P. buscki* Boone, 1934, uncommon species, that is only recorded from Sierra Anafe, Havana province.

Resumen

Se describe una nueva especie de isópodo terrestre perteneciente al género *Pseudarmadillo* Saussure 1861, colectada en Cantera de Mella, Pinalito, provincia de Santiago de Cuba. Por su ornamentación y rareza, se diferencia notablemente del resto de sus congéneres excepto de *P. buscki*, especie rara, consignada solamente para la Sierra de Anafe, provincia de La Habana.

Key Words: Isopoda, Oniscidea, Delatorreidae, *Pseudarmadillo*, Taxonomy, Cuba.

Palabras clave: Isopoda, Oniscidea, Delatorreidae, *Pseudarmadillo*, Taxonomía, Cuba.

INTRODUCTION

The genus *Pseudarmadillo* Saussure, 1861, includes, without any doubts, the most beautiful and attractive isopods of all oniscids. The type of ornamentation and the immense variability that exhibit many of their tegumentary attributes such as spines, tubercles, horny scales, etc., have become these "*cochineals of humidity*" into one of the most interesting groups of the whole order.

ARMAS AND JUARRERO (1999) recognised Delatorreidae Verhoeff, 1938 as the valid name for this family (not Pseudarmadillidae Vandel, 1973, as proposed by VANDEL, 1981). They also described a new subfamily, a new genus, a new subgenus within *Pseudarmadillo*, and 11 new species. JUARRERO AND ARMAS (in press) present another new species of *Pseudarmadillo* restricted to the Sierra Maestra, Santiago de Cuba province. Previously *Pseudarmadillo welchii* (Boone, 1934) and *Pseudarmadillo dolfussi* (Richardson, 1905) were relegated by ARMAS AND JUARRERO (1991) as junior synonymous of *P. carinulatus* Saussure, 1861.

At the present, Delatorreidae contains two genera (*Pseudarmadillo* and *Cuzcodinella* Armas and Juarrero, 1999), 15 living species (14 of them are endemic from Cuban

Archipelago, whereas Cuba and Bahamas share *P. carinulatus*), and two fossil species described by SCHMALFUSS (1984) from Dominican amber.

The purpose of this communication is to describe a new species of *Pseudarmadillo* from northern Santiago de Cuba province.

MATERIALS AND METHODS

All measurements are expressed in millimetres; the total length of the specimens (TL) is taken from the margin of the frontal lobe of the cephalon to the apex of the telson. Ratio weight /length of exopod from first male pleopod appears with the acronym RWL and peraeonal segment with PS. The photos were taken with a 4 megapixels Digital Camera Nikon 4300 directly to the stereo microscope with an increase of 8x.

SISTEMATIC

Family DELATORREIDAE Verhoeff 1938

Genus *Pseudarmadillo* Saussure 1861

Subgenus *Pseudarmadillo* Armas and Juarrero 1999

Pseudarmadillo vansicklei n.sp.

(Figs. 1-3)

Types: 1 male holotype (TL = 10, 1) and 2 males paratypes, (TL = 6,9-7,3), Quarry of “Mella” near to Pinalito rural community, N of Santiago de Cuba province, collected by Adrián González in December 2002; deposited in the Institute of Ecology and Systematic (IES), Havana City. Two paratypes (#12.01-02), 1 male (TL = 8, 1) and 1 female (TL = 7, 8), same information that the previous one; deposited in the National Museum of Natural History of Cuba (NMNH), Havana City.

Diagnosis: *A medium-size species that can roll up into a spherical ball (Fig. 1). Fully pigmented body, thorny and slightly covered by small tubercles. Cephalon with weakly developed lobes, bearing a pair of anterocentral expansions with appearance of leaves. Tergites with two lateral long spines and four central ones of smaller size; segment VII with an enormous pair of subequal spines, triangular in its base and that is extends beyond the apex of the telson, uropods with the inner branch that surpasses the insertion of the outer branch in the protopodite.*

Description of the holotype: Cephalon two and half times as wide as long; first half exhibits two big prominences or expansions in appearance of leaves finishing in a curved tip and directed towards back (Fig. 2A). In the base of each prominence there is a minute lateral spine. Frontal and lateral lobes weakly developed and very separate each other. Well developed eyes. Thorny body; tergites I-VI with two huge lateral spines, with tiny tubercles in its base; between these two spines and along the whole lateral margin in each segment there are two acute spines of moderate size and two smaller ones to each side, the spines of the tergites I and IV in shape of leaves, directed towards back. Anterior margin of the tergite I with two sublateral small blunt spines; tergites I and II with a cen-



Figure 1. *Pseudarmadillo vansicklei* n. sp. Lateral view of the body. Male holotype (TL=10,1)
Figura 1. *Pseudarmadillo vansicklei* n. sp. Vista lateral del cuerpo. Macho holotipo (LT=10,1)

tral horny scale in the first half. Tergite VII with two enormous and dissimilar central expansions, upturned and extending far beyond end of the telson (Fig. 2C), ventrally with two strong spines in their base and down turned; small lateral spines followed by two subcentral smaller ones. Peraeonal segment I wide and subrectangular, with an insignificant groove that finishes in an internal process in spine appearance; internal lobe of the peraeonal segment II sharp and notably developed (Fig. 2B).

Pleon with tergites I-III unarmed and subequals, IV and V with a central spine laterally compressed, the V slightly longer than IV; telson with a central spine in leaves shape, nearly twice longer than the previous one and back-turned, surpassing with its basal half the apex of the telson. Uropods with the outer branch small, not reaching the apex of the telson (Fig. 3B); rounded telson; inner branch with a truncated apex that surpasses the base of the outer branch but without reaching the end of the telson.

Male pleopod I endopodite curved outwards (Fig. 3A), apparently without spines along the spermatic furrow; basal part wide; exopodite suboval, bearing a row of spaced six spines bordering posterior margin (Fig. 3B); RWL= 1,45. Pleopod II exopodite very wide in its basal half, with a not regularly spaced row of seven spines; second half slender and without spines (Fig. 3C); endopodite slightly surpassing the exopodite.

Distribution: Only known from the type-locality.

Ecological remarks: The specimens were collected below limestone to 250-300 m asl. The Quarry Mella, although is an antropogenic area that is in exploitation currently, may be considered as in good condition (A. Gonzalez, personal communication). Quarry "Mella" formerly "Miranda" is located roughly 1 Kms SE from Pinalito rural community, in the S extreme of Nipe Mountains.

Etymology: The specific name is a patronymic in honour to Walter D. Van Sickle III, President of the Idea Wild Foundation (U.S.A), for his important contribution and support to the study of the Cuban biodiversity.

Comparison: *Pseudarmadillo vansicklei*, n. sp. belongs to the subgenus *Pseudarmadillo* which contains 12 species (ARMAS AND JUARRERO, 1999; JUARRERO AND ARMAS, *in press*). Of the group of species with the body covered with spines within the subgenus, according to the type of ornamentation and the shape of some of their spines or expansions, only *P. buscki* Boone, 1934, resembles to the species that we propose; however, both

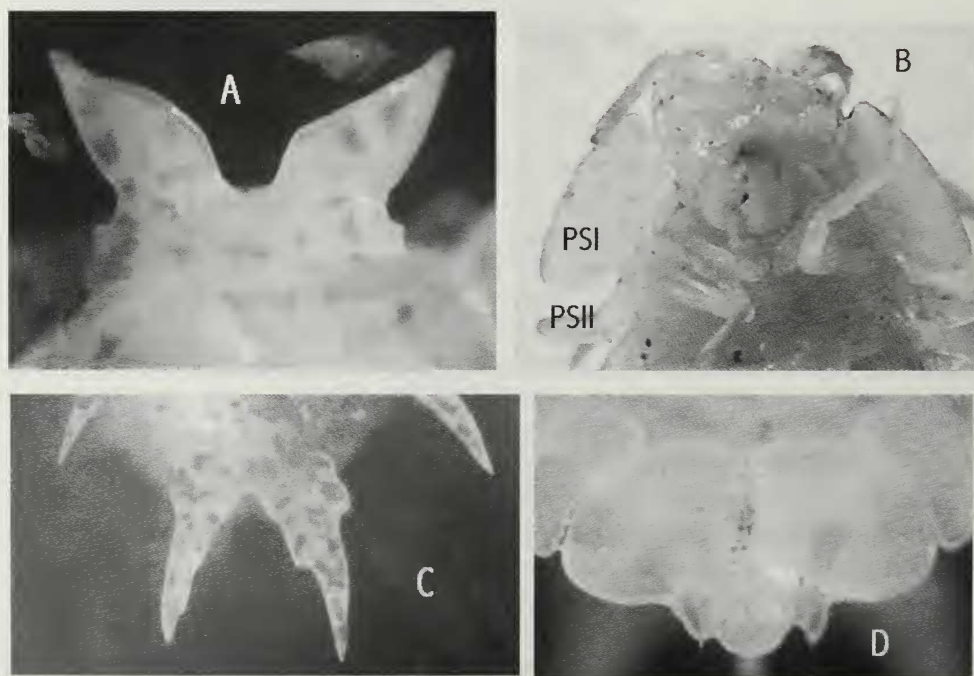


Figure 2. *Pseudarmadillo vansicklei* n. sp. A, expansions of the cephalon in leaves shape (frontal view); B, peraeonal segment I and II (ventral view); C, segment VII of the pereion (dorsal view); D, inner and outer branch of the uropod, protopodite and apex of the telson (ventral view).
Male holotype (TL = 10,1)

Figura 2. *Pseudarmadillo vansicklei* n. sp. A, expansiones foliaceas del cefalón (vista frontal); B, epimerón I y II (vista ventral); C, segmento VII del pereión (vista dorsal); D, rama interna y externa del urópodo, protopodito y ápice del telson (vista ventral). Macho holotipo (LT= 10,1)

species differ significantly in the following characters: 1-segments II-VI with lateral spines largest in *P. vansicklei*; 2-expansions or posterior spines of the cephalon much bigger in *P. buscki* and with leaves appearance in *P. vansicklei*, what repeats in the first segment of the pereion; 3-different forms and proportions width/length of the peraeonal segment I in both species, in *P. vansicklei* subrectangular and less acute anteriorly; 4-segment VII with spine notably longer in *P. vansicklei* and with a central spine in *P. buscki*; 5-inner branch of the uropods more developed in *P. vansicklei*.

In spite of no specimens of *P. buscki* were available because only are known two type specimens deposited in the AMNH of New York, one of them even in very bad preservation condition, we estimate that the original description and the drawings of BOONE (1934) are enough to carry out the comparison between the two species, overall, because the characters of taxonomic importance are appropriately illustrated and described.

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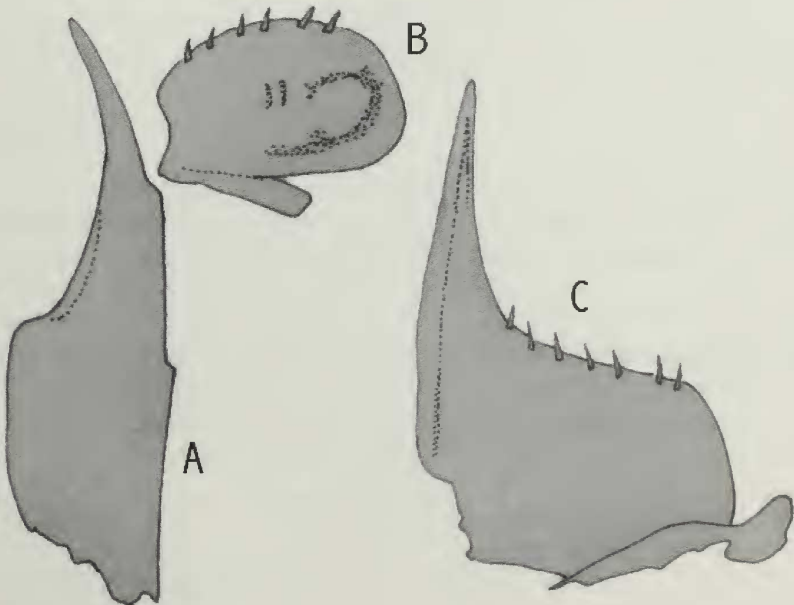


Figure 3. *Pseudarmadillo vansicklei* n. sp. A, Male pleopod I endopodite; B, right exopodite; C, Male pleopod II exopodite (left) . Holotype (TL=10,1)

Figura 3. *Pseudarmadillo vansicklei* n. sp. A, endopodito del pleópodo I del macho; B, exopodito derecho; C, exopodito del pleópodo II del macho (izquierdo). Holótipo (LT=10,1)

REFERENCES

- ARMAS, L. F. AND A. JUARRERO. 1999. Sistemática de la familia Delatorreidae (Isopoda: Oniscidea) en Cuba. *Avicennia*, 10-11:1-42.
- ARMAS, L. F. AND A. JUARRERO. 1991. *Isópodos terrestres (Oniscidea) de Cuba. 2. Situación taxonómica de Pseudarmadillo welchii Boone, 1934, y P. dollfusi Richardson, 1905 (Armadillidae)*. In: *II Meeting of Zoology*, Havana City. Abstracts, p. 42.
- BOONE, P. L. 1934. New and rare Cuban and Haitian terrestrial Isopoda. *Bull. Amer. Mus. Nat. Hist.*, 66:567-598.
- JUARRERO, A. AND ARMAS, L. F. (in press). Nueva especie de *Pseudarmadillo* (Isopoda: Oniscidea: Delatorreidae) de Cuba suroriental. *Solenodon* 2.
- SCHMALFUSS, H. 1984. Two new species of the terrestrial isopod genus *Pseudarmadillo* from Dominican amber (Amber-Collection Stuttgart: Crustacea, Isopoda, Pseudarmadillidae). *Stuttugarter Beitr. Naturk.*, ser.B (102):1-14.
- VANDEL, A. 1981. *Les isopodes terrestres et cavernicoles de l'île de Cuba. (Second mémoire)*. Résultats des expéditions biospéologiques cubano-roumaines à Cuba. Editura Academiei Republicii Socialiste România, Bucarest, 3:5-57.